DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-006111
Date Inspected: 01-Apr-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 645
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower Fabrication

Summary of Items Observed:
CWI Inspector: Mr. Zhu Zhong Hai

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

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On March 31, 2009 (yesterday) this QA Inspector performed random ultrasonic inspections of OBG Bottom Plate weld BP025-005-003 and observed a class “A” ultrasonic indication near the back surface of the weld. ZPMC ultrasonic Inspectors confirmed the indication and the back side of the weld was ground in an effort to remove the indication. ZPMC ultrasonic Inspectors then confirmed the UT indication was removed. Today this QA Inspector performed ultrasonic inspections of weld BP025-005-003 and determined the weld now appears to comply with AWS D1.5 ultrasonic requirements. This QA Inspector performed a limited visual inspection of the back side of weld BP025-005-003 and observed the back side of the weld has a dished appearance where it was ground. The QA Inspector asked ZPMC QC representative Mr. Xutao if a Quality Control Inspector has measured the depth of the grinding depression on the back side of weld BP025-005-003. Mr. Xutao said he did not know if this area had been measured, but he will request that the plate be turned over in order to gain access to the back side of the plate. After the plate was turned over, the QA Inspector measured the depth of the gouge in weld BP025-005-003 to be approximately two millimeters in depth. ZPMC CWI Mr. Zhu Zhong Hai inspected this area and informed the QA

Inspector he will have the weld repaired and reinspected. Later in the day the QA Inspector observed weld BP025-005-003 has been weld repaired and ZPMC Inspectors have marked this weld as being magnetic particle and ultrasonically acceptable. The QA Inspector performed magnetic particle inspection of the repaired area and items observed appear to comply with project specifications. See the photographs below for additional information.

This QA Inspector performed random magnetic particle (MT) inspections of approximately 10 percent length of OBG bottom plate welds BP026-006-001, BP026-006-002, BP026-006-003, BP025-005-001, BP025-005-002, BP025-005-003, BP026-004-001, BP026-004-002 and BP026-004-003. These welds had previously been MT inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were MT inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6028 Magnetic Particle Test Report.

The QA Inspector observed ZPMC welder Mr. Wang Shanmin, stencil 259323 is using welding procedure WPS-B-P-2112-FCM to make shielded metal arc weld fillet tack welds on Bottom Plate BP026-006 stiffeners to the bottom plate. The QA Inspector measured a welding current of approximately 200 amps and the QA Inspector observed the base material had been preheated with a torch where the tack welds were to be made. The QA Inspector observed ZPMC QC personnel monitoring this welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Li Xiangzheng, stencil 259462 is using welding procedure WPS-B-P-2112-FCM to make shielded metal arc fillet tack welds on Bottom Plate BP026-006 stiffeners to the bottom plate. The QA Inspector measured a welding current of approximately 190 amps and the QA Inspector observed the base material had been preheated with a torch to a minimum of 20 degrees Celsius where the tack welds were to be made. The QA Inspector observed ZPMC QC personnel monitoring this welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Sun Zhaowen, stencil 062735 is using welding procedure WPS-B-T-2133 to make flux cored fillet welds in the 3G (vertical) position on Cross Beam CB3 between Side plate SP227-001 and Floor Beam FB210-001. The QA Inspector measured a welding current of approximately 200 amps and 24.0 volts. QA Inspector observed the base material had been preheated with a torch prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Cai Hailong, stencil 062749 is using welding procedure WPS-B-T-2133 to make flux cored fillet welds in the 3G (vertical) position on Cross Beam CB3 Side plate SP224-001 to floor beam FBB209-001. The QA Inspector measured a welding current of approximately 200 amps and 25.0 volts. QA Inspector observed the base material had been preheated with a torch prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder stencil 062750 is using welding procedure WPS-B-T-2133 to make flux cored fillet welds in the 3G (vertical) position on Cross Beam CB3 between Side plate SP222-001 and Floor Beam FB209-002. The QA Inspector measured a welding current of approximately 195 amps and 24.0 volts. QA Inspector observed the base material had been preheated with a torch prior to welding. Items observed by the QA Inspector appear to comply with project specifications.

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This QA Inspector performed random ultrasonic inspections of approximately 20 percent length of OBG welds SSD34-PP08.5-157, SSD34A-PP08.5-157, SSD35-PP09-157, SSD35-PP09-157, SSD36-PP09.5-157 and SSD36-PP09.5-157 . These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer